Matrix
3500

Christie's Matrix Series – Synonymous with Simulation

Christie's new Matrix Series simulation solutions are purpose-built projectors designed to meet the specific requirements of the simulation market. As technologies change and the demands of the simulation and training markets increase, the need for lower cost simulation systems with higher resolution and higher brightness is prevalent.

The Matrix 3500 is a purpose-built 3-chip 1.8" LCD UXGA high performance, high brightness simulation projector. The brightest in the series, the Matrix 3500 projects 3500 ANSI lumens for bright, vibrant images in daytime simulation environments and full ambient light. Images on-screen are displayed in 1600x1200 UXGA resolution for phenomenally crisp, detailed realistic graphics. The Super CR™ 1000:1 full field contrast ratio ensures the accurate reproduction of night-mode simulation.

The Matrix 3500 also features broad source compatibility and connects to virtually every computer or video source. With Minimum Processing Latency (MPL™), less than one frame delay enables extremely fast simulator response time to user's commands providing sharp, vibrant images without loss of detail, flicker or motion artifacts.

The Matrix 3500 is quick to set up with an intuitive GUI and virtual plug and play operation with a universal power supply that auto adjusts. Christie's Digital Color Management (DCM™) system offers a specially designed optical system with very tight tolerance for primary colors and together with the Custom Gamma Adjustment (CGA™) ensures the true color representation, color matching and uniformity across multi-screen images in simulation applications.

The Matrix 3500 features Color Select Filter (CSF™) to ensure all three colors are identically polarized. Two stacked Matrix 3500 units can be used either with linear or circular polarization kits for passive stereo applications.

Featuring four 100W UHP™ lamps with 8000 hours of typical lamp life (16000 hours in dual lamp mode and sequential lamp operation) the Matrix 3500 provides reliability, failsafe operation and a lower power consumption for lower cost of ownership. The ruggedized design withstands 3G vibrations in all three axes making Christie's Matrix 3500 the reality in simulation.

- 3500 ANSI lumens
- SuperCR™: 1000:1 on/off contrast ratio
- True UXGA resolution (1600x1200)
- Digital Color Management (DCM™) for RGB color matching across multiple screens
- Custom Gamma Adjustment (CGA™)
- Minimum Processing Latency (MPL™) of less than one frame
- Remote diagnostics and control via RS232
- ChristieNET™ networking
- Four 100W UHP™ lamps with 8,000 hrs of rated lamp life (16,000 hours in dual lamp operation)
- Lamp Power Management (LPM™) system
- Color Select Filter (CSF™) ensures that RGB colors are in the same polarization plane
- Designed for linear or circular passive stereo applications in stacked configuration
- Wide range of optional fixed and zoom lenses, input modules and accessories
- Universal 90 to 260 V AC for world-wide operation
- 3G operating vibration specification in all three axes

APPLICATIONS

- Aircraft, ship's bridge and land vehicle simulators
- Driver training
- Air Traffic Control simulators
- Design simulators
- Architecture, engineering and construction
- Research and development
- Military training
- Entertainment

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Matrix 3500 • Specifications

Brightness
- 3500 ANSI lumens (1750 ANSI lumens in dual lamp mode)

Contrast Ratio
- Super CR™: 1000:1 Full Field

Resolution
- Three 1.8" p-Si AM TFT High Aperture LCD panels
- True UXGA 1600 x 1200 chip resolution
- 8-bit digital color processing
- 16.7 million displayable colors

Purpose-built Simulation Features
- Digital Color Management (DCM™) for RGB color matching across multiple screens through individual RGB color adjustments and tight primary color tolerance
- Custom Gamma Adjustment (CGA™) features several gamma curves and gray scale tracking control
- Minimum Processing Latency (MPL™) of less than one frame
- Lamp Power Management (LPM™) for monitoring and control of four lamps (dual or single lamp mode – user selectable)
- Rigid design with 3G operating vibration specification in all three axes
- Color temperature adjustment range from 3200K to 9300K
- Color Select Filter (CSF™) enables the use of the Matrix 3500 units for passive stereo
- Linear and circular polarization kits

Source Compatibility and Digital Image Processing
- Compatibility with VGA, SVGA, XGA, SXGA, SXGA+ and UXGA
- Resizing processing for computers and workstations from VGA (640 x 480) up to UXGA (1600 x 1200) resolution
- Accepts composite video, S-video (Y/C), component video (YUV) and HDTV (YPbPr)
- Auto detects NTSC, NTSC 4.43, PAL, PAL M, PAL N, SECAM
- Separate, composite sync and sync-on-green compatible
- HDTV Tri-level sync compatible for various HDTV formats (1080i, 720p, 576i/p, 480i/p)
- User selectable aspect ratios 4:3 and 16:9
- Digital keystone +/-40°

Input Horizontal Frequency
- 15kHz to 120kHz

Input Vertical Frequency
- 50 Hz to 120 Hz

Dot Clock
- 230 MHz

Field Interchangeable Optional Lenses
- Flexibility of installations at various distances from the screen
- Optional fixed and zoom lenses from 0.8:1 to 7:1
- Screen size 40" to 600" (1m – 15.2m) (lens dependent)
- Rigid lens mount design

- Lens mount with power offset (left/right and up/down), focus and zoom adjustment
- Easy and fast lens replacement

Inputs
- Input 1: DVI Input module for connections to digital computer sources with audio and control port
- Input 2: 5 BNC Input module for connections to analog computer, component and HDTV sources (R,G,B,H,V and Y, Pb/Cb, Pr/Cr) with audio and control port (Compatible with DTV/HDTV formats 480 30i/p, 720p, 720 60p, 1035 30i, 1080 25i, 1080 30i and 1035)
- Input 3: Video Decoder module accepts composite video and S-video from VCR, DVD, Laser Disc players and video cameras and automatically detects PAL, PAL M, PAL N, NTSC, NTSC 4.43 and SECAM video standards
- Input 4: Analog RGB 1 x D-sub 15 connection with audio and control port

Outputs
- Two built-in 3W speakers
- Audio output (2 x RCA)

Enhanced Feature Set
- Intuitive on-screen display (OSD) menus
- Service functions can be password protected
- Multiple language support
- Auto set-up feature
- Front, rear and ceiling mount installation options
- Volume control and mute
- Picture freeze and "No show" mode functions
- Digital zoom function (x1/4 to x49)
- Presentation timer

Control/Networking
- IR Remote multi-function keypad with direct key controls, mouse and laser pointer
- Wired and built-in keypads
- Front and rear IR receiver
- Remote control jack
- RS232 in/out communication ports via 9-pin D-sub terminals for full remote control and diagnostics
- Built-in diagnostic LED
- USB type B port
- Optional ChristieNET™ networking for remote control, monitoring and diagnostics

Lamp Specification
- Four 100W UHP™ lamps from Philips
- 8000 hours of rated lamp life
- User replaceable lamp
- Pre-aligned lamp module
- Lamp life warning indicators

Power Requirements
- Universal voltage range (auto-switching) 90-260V AC
- Line frequency: 50 - 60 Hz nominal
- Power consumption: 600 W typical, 700W maximum
- In-rush current rating: 80A maximum
- Current rating: 6 A maximum at 100-120 VAC, 3 A maximum at 200-240 VAC
- Thermal dissipation: 2400 BTU/hr maximum

Environmental
- Operating Temperature: 5 - 35° C (41-95° F)
- Storage Temperature: -30 - 60° C (-22-140° F)
- Operating Humidity: 20 - 80% non-condensing
- Storage Humidity: 0 - 90% non-condensing
- Acoustic noise level 47 dB achieved with a proprietary fan control system

Size and Weight
- Size (body dimensions, without lens): 30.8" L x 22.8" W x 9.9" H (783mm L x 581mm W x 251mm H)
- Weight: 37 kg (81.5 lbs)
- Shipping weight in standard packaging: 51.3 kg (113 lbs) max.

Standard Accessories
- Wireless/Wired remote unit with mouse control and laser pointer (two "AA" type batteries and wired cable included)
- User's manual
- Computer cable (Dsub15-Dsub15)
- MAC/VGA adapter
- Mouse control cable (PS/2, Serial and MAC)
- DVI cable
- DVI/VGA adapter
- Dust cover
- AC cord x 2 (UL type and European 2P plug type)

Optional Accessories
- ChristieNET™ Networking
- Replacement lamp module
- Service manual
- Transit case
- Optional Short Fixed 0.8:1 Lens
- Optional Short Fixed 1.2:1 Lens
- Optional Short Zoom 1.3-1.8:1 Lens
- Optional Zoom 2.0-2.6:1 Lens
- Optional Zoom 2.6-3.5:1 Lens
- Optional Semi Long Zoom 3.5-4.6:1 Lens
- Optional Long Zoom 4.6-6.0:1 Lens
- Optional Long Fixed 7.0:1 Lens
- DVI module
- 5 BNC module
- Y/C module
- Dsub-15 module
- HD-SDI module
- SD-SDI module
- Polarization Filters Linear Set (left & right) and Circular Set (left & right)

Regulatory Approvals
- Safety: CSA C22.2 No. 950, UL 1950, EN609050 European Norm "Safety of Information Technology Equipment"
- Complies with relevant worldwide EMC and safety standards
- The product complies with FCC class A and EN55022 Class A requirements
- This product conforms to all relevant European directives, standards, safety, health and environmental concerns and bares the CE marking

Warranty
- Projector warranty: 15 months parts and labor
- Lamp warranty: 120 days
- Accessories: One year

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